

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Use of Portions of Returned 2 GHz	)	IB Docket No. 05-221
Mobile Satellite Service Frequencies	)	

**REPLY COMMENTS OF SKYTERRA COMMUNICATIONS, INC.**

SkyTerra Communications, Inc. (“SkyTerra”), by its attorneys, hereby files these reply comments pursuant to the Commission’s Public Notice dated June 29, 2005, in the above-captioned proceeding.<sup>1</sup> SkyTerra supports the position taken by TMI Communications and Company, Limited Partnership and TerreStar Networks Inc. (collectively, “TMI/TerreStar”) and ICO Satellite Services G.P. (“ICO”) in their first-round comments in this proceeding,<sup>2</sup> as well as other parties that support the redistribution of available 2 GHz mobile satellite service (“MSS”) spectrum to the remaining 2 GHz operators.<sup>3</sup> Such a reassignment will ensure a robust and competitive 2 GHz MSS, the provision of broadband services throughout the United States — including rural and underserved areas — and timely use of spectrum in the 2 GHz band.

**I. INTRODUCTION**

SkyTerra<sup>4</sup> has an ownership interest in, and participates in the operations, of Hughes Network Systems, Mobile Satellite Ventures, TerreStar and Electronic System Products. As an

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<sup>1</sup> See Public Notice, *Commission Invites Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies*, FCC 05-134, IB Docket No. 05-221 (released June 29, 2005).

<sup>2</sup> See Comments of TMI/TerreStar, July 29, 2005; Comments of ICO, July 29, 2005.

<sup>3</sup> See Comments of Alcatel Alenia Space, July 29, 2005; Comments of Lockheed Martin Corp., July 29, 2005; Comments of The Satellite Industry Association, July 29, 2005; Comments of Rydbeck Consulting, July 11, 2005.

<sup>4</sup> SkyTerra is a publicly traded company. Its principal shareholder is Apollo Advisors, L.P.

owner and operator of satellite networks, SkyTerra closely follows developments in the communications industry as a whole, with special interest in mobile communications, both terrestrial and satellite. SkyTerra believes that it is essential for the wireless telecommunications industry to have two strong 2 GHz MSS operators with sufficient spectrum to ensure the availability of mobile broadband services to all Americans. Indeed, there is no other service, either terrestrial or satellite, that has the promise of bringing ubiquitous mobile broadband to all Americans by 2007 in keeping with the goals outlined by President Bush<sup>5</sup> and the Commission.<sup>6</sup>

Only two of the original eight 2 GHz MSS licensees have been able to meet the construction milestones for their systems. As a result, the Commission now has an opportunity to provide additional spectrum to the remaining licensees that are moving forward with their systems — TMI/TerreStar and ICO — to ensure that they have sufficient spectrum for the entire 15-year lifespan of their satellites to provide robust and competitive MSS throughout the United States. In the Public Notice released on June 29, 2005, in this proceeding, the Commission sought comment on three options for redistributing or reallocating the remaining one-third of 2 GHz MSS spectrum: (1) divide that spectrum between TMI/TerreStar and ICO by modifying their existing authorizations pursuant to Section 316 of the Communications Act; (2) make that spectrum available to new 2 GHz MSS licensees following a new processing round; and (3) reallocate that spectrum for other uses following a Notice of Proposed Rulemaking.<sup>7</sup>

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<sup>5</sup> President Bush has called for broadband access throughout the United States by 2007. *See* President George W. Bush, Remarks at the U.S. Department of Commerce (June 24, 2004).

<sup>6</sup> *See infra* note 13 and accompanying text.

<sup>7</sup> In a concurrent public notice released on June 29, 2005, in IB Docket No. 05-220, the Commission proposed to redistribute approximately 5 MHz of the surrendered spectrum (2.67 MHz in each direction) to TMI/TerreStar and ICO by modifying their licenses under Section 316 of the Communications Act. *See* Public Notice, *Commission Invites*

In the first round of comments filed in this proceeding, several parties voiced their support for a robust and competitive 2 GHz MSS and urged the Commission to redistribute the remaining one-third of the spectrum to TMI/TerreStar and ICO.<sup>8</sup> Predictably, the terrestrial wireless carriers and certain other parties seek in their comments to have the spectrum reallocated for different purposes;<sup>9</sup> Inmarsat seeks to reopen the original 2 GHz licensing proceeding to have another chance at the spectrum;<sup>10</sup> and Globalstar seeks, unnecessarily, to put this proceeding on hold during the pendency of its petition for reconsideration of its 2 GHz license revocation.<sup>11</sup>

As discussed further below, SkyTerra strongly supports redistribution of the remaining 2 GHz MSS spectrum to TMI/TerreStar and ICO as the most efficient way to ensure availability of a robust MSS throughout the United States, particularly in light of the 15-year lifespan of the TMI/TerreStar and ICO satellites.

## **II. THE RECORD DEMONSTRATES THAT REDISTRIBUTION OF THE REMAINING 2 GHz MSS SPECTRUM TO TMI/TERRESTAR AND ICO WOULD SERVE THE PUBLIC INTEREST**

The record in this proceeding clearly indicates that it will serve the public interest to have a robust 2 GHz MSS, which will ensure that all Americans have access to mobile broadband

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*Comments Concerning Use of Portions of Returned 2 GHz Mobile Satellite Service Frequencies*, FCC 05-133, IB Docket No. 05-220, (released June 29, 2005).

<sup>8</sup> See *supra* notes 2-3.

<sup>9</sup> See Comments of CTIA – The Wireless Association, July 29, 2005; Comments of United States Cellular Corp., July 27, 2005; Comments of Cingular Wireless LLC, July 25, 2005; Comments of the American Petroleum Institute, July 29, 2005; Comments of the Society of Broadcast Engineers, Inc., July 29, 2005; Letter of Intel Corp., July 29, 2005 (attaching Reply Comments filed in IB Docket No. 02-550); Comments of Sirius Satellite Radio Inc., July 29, 2005.

<sup>10</sup> See Comments of Inmarsat Ventures Limited, July 29, 2005.

<sup>11</sup> See Comments of Globalstar LLC, July 29, 2005.

services. In order for 2 GHz MSS to reach its full potential, the record demonstrates that TMI/TerreStar and ICO each need access to 2 x 10 MHz of spectrum.<sup>12</sup> This does not require the Commission to allocate more spectrum to 2 GHz MSS; rather, the Commission can accomplish this simply by following the first option discussed in the Public Notice in this proceeding: redistributing the existing MSS spectrum from licensees that have not been able to complete their systems to licensees that are proceeding successfully with system implementation — i.e., TMI/TerreStar and ICO. The alternative uses for this spectrum suggested by several commenters would not provide the same public interest benefits as redistribution of the spectrum to TMI/TerreStar and ICO.

**A. Redistribution of the Spectrum to TerreStar/ICO Will Advance the Commission's Public Policy Goals from Its Draft Strategic Plan**

Redistribution of the 2 GHz spectrum to the existing MSS operators in the band will clearly advance the goals contained in the Commission's draft Strategic Plan, including homeland security, spectrum efficiency, broadband deployment and competition.<sup>13</sup>

***Homeland Security.*** 2 GHz MSS with sufficient spectrum will allow public safety agencies to have seamless access to mobile broadband communications throughout the United States, thus advancing the Commission's homeland security goals.<sup>14</sup> As any user of the existing terrestrial wireless infrastructure is aware, that system is not ubiquitous and is plagued by dropped calls. In its comments, TMI/TerreStar point out that "[i]t is difficult, if not impossible, to achieve [the Commission's homeland security] goals using existing wireless communications

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<sup>12</sup> See *supra* notes 2-3.

<sup>13</sup> See Public Notice, *Public Invited to Review Draft Strategic Plan* (released July 5, 2005).

<sup>14</sup> See Comments of Lockheed Martin at 1; Comments of Alcatel; Comments of SIA at 1-3; Comments of Hughes at 5-6; Comments of TMI/TerreStar at 6-10; Comments of ICO at 7-8; Comments of Rydbeck at 1-3.

networks. Advanced security applications cannot continue to be dependent on networks with a variety of protocols, varied bandwidth, and competing commercial priorities and products.”<sup>15</sup>

We agree. Indeed, a 2 GHz MSS system with 2 x 10 MHz of spectrum will facilitate the planning, designing and deployment of critical advanced security applications without undue delay, complication or excessive cost.<sup>16</sup> There is in fact no other technology that can provide this range of services, coverage and reliability.

***Spectrum Efficiency.*** Redistribution of the remaining 2 GHz MSS spectrum to TMI/TerreStar and ICO, so that each has 2 x 10 MHz of spectrum, will also ensure that the spectrum is put to its highest and best use for advanced and ubiquitous mobile services, in furtherance of the Commission’s spectrum-related goals.<sup>17</sup> Both TMI/TerreStar and ICO are designing systems that will allow users to obtain mobile broadband services throughout the entire United States. The range of service capabilities will be comparable to terrestrial mobile broadband. However, unlike terrestrial services, 2 GHz MSS will be ubiquitous and not suffer from the technical problems associated with line-of-sight systems. Use of 2 x 10 MHz will enable the existing 2 GHz MSS licensees to double the number of users served by the satellite — users who will have the benefit of circuit-switched, push-to-talk and short message services and on-demand multimedia content.<sup>18</sup> With the ubiquity and reliability of MSS, there is little doubt that redistribution of the remaining one-third of 2 GHz MSS spectrum to the remaining two licensees is the most spectrum efficient solution of all of the Commission’s options in this proceeding.

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<sup>15</sup> Comments of TMI/TerreStar at 7-8.

<sup>16</sup> *See id.* at 8.

<sup>17</sup> *See* Comments of TMI/TerreStar at 10-14; Comments of ICO at 9-12; Comments of Rydbeck at 2.

<sup>18</sup> *See* Comments of TMI/TerreStar at 11 (citing Technical Appendix).

***Broadband Deployment.*** 2 GHz MSS operators with sufficient spectrum will provide a robust broadband service throughout the United States, including rural and underserved areas. Today, rural and remote areas have few if any options to obtain broadband service. The single greatest advantage of a satellite system is that its footprint can serve the entire United States. Terrestrial operators, either individually or collectively, do not offer a service that is available throughout the entire United States. Thus, today many Americans have few if any options for broadband. Given its ubiquity, 2 GHz MSS is the best means to advance the Commission's goal of making mobile broadband services available to all Americans.<sup>19</sup> In order to meet this goal, however, it is critical that MSS operators be provided with sufficient spectrum to establish commercially viable systems.

***Competition.*** Two MSS operators with 2 x 10 MHz of spectrum in the 2 GHz band will provide significant competition to the existing mobile satellite operators as well as terrestrial wireless operators, including cellular, PCS, SMR, BRS and WiFi — thus advancing the Commission's goal of competition.<sup>20</sup> The 2 GHz MSS operators are currently spectrum limited and thus at a competitive disadvantage vis-à-vis terrestrial carriers, which have access to more than 200 MHz of spectrum. If a terrestrial licensee's demand exceeds its currently available spectrum, it has the ability to acquire more spectrum. On the other hand, MSS licensees have virtually no other spectrum options if demand exceeds available spectrum. This puts the MSS licensees at a competitive disadvantage vis-à-vis terrestrial providers. Providing the remaining 2 GHz MSS licensees with a full 2 x 10 MHz of spectrum will help to ameliorate this competitive

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<sup>19</sup> See Comments of Lockheed Martin at 1; Comments of Alcatel; Comments of SIA at 3-4; Comments of Hughes at 3-5; Comments of TMI/TerreStar at 14-16; Comments of ICO at 3-7; Comments of Rydbeck at 1-3.

<sup>20</sup> See Comments of TMI/TerreStar at 16-19; Comments of ICO at 9-12.

advantage. At the same it, it will promote viable competition to the incumbent terrestrial providers.

**B.      Redistribution of the Remaining 2 GHz MSS Spectrum to the Existing Licensees Is the Best Use of the Spectrum**

There can be little doubt of the significant public interest goals that can be met by the introduction of viable MSS systems. The critical question presented by this proceeding is whether the redistribution of the remaining MSS spectrum to the two existing 2 GHz MSS licensees is the best use of this spectrum. As discussed above, MSS spectrum will significantly aid in the deployment of broadband throughout the U.S.

A review of the 2 GHz MSS from its inception in the mid-1990's reveals an evolution in the services that were to be offered by these systems. Initially, 2 GHz MSS was going to function primarily as a mobile telephony service. The spectrum requirements for this service were defined by how many voice channels could be obtained from a particular frequency assignment. However, as with terrestrial mobile, the nature of the services to be provided by 2 GHz MSS has evolved over the last ten years. The Internet changed everything. First, we were demanding quick connections to download print web pages. Then we sought to quickly download pages with color, graphics, photographs and music. Today, we are beginning to see demand for downloading full motion video. Each of these advances has required significantly more bandwidth. Thus, the initial bandwidth demands made by both the terrestrial and satellite proponents in the 1990's are now obsolete. While we do not know what the demands will be in the next ten years, we do know that bandwidth demands will grow.

SkyTerra does not believe that the existing spectrum currently available to the 2 GHz MSS is sufficient to insure the long term viability of competitive mobile broadband systems. This is for several reasons. First, even with the same number of customers as originally

projected for these systems, the spectrum requirements have grown dramatically (commensurate with the evolution of the types of services to be offered). Second, as the evolution of broadband during the last ten years amply demonstrates, the bandwidth demands will continue to grow. Unlike terrestrial systems, once an MSS system is launched and becomes operational, it is very difficult to introduce new technology. Given that an MSS system has a 15-year lifetime, it will need sufficient spectrum to grow as new spectrum demands appear. Third, the limited opportunities for 2 GHz MSS systems to acquire additional spectrum will put it at a competitive disadvantage vis-à-vis terrestrial operators. Finally, any telecommunications operator will need a sufficient number of customers in order to be commercially viable. If 2 GHz MSS has a finite amount of spectrum and the spectrum requirements for any individual customer continues to grow, the number of customers that any individual 2 GHz MSS system can serve will shrink. This environment may undermine the commercial viability of any individual 2 GHz MSS system. The best means to avoid these issues and insure the development of robust and competitive 2 GHz MSS systems is to reallocate the remaining 2 GHz MSS spectrum to ICO and TMI/TerreStar.

Certain commenters request that the Commission, instead of redistributing the remaining one-third of the 2 GHz MSS spectrum to TMI/TerreStar and ICO, make that spectrum available for other uses, such as terrestrial wireless services,<sup>21</sup> broadcast auxiliary services<sup>22</sup> and satellite radio,<sup>23</sup> or allow another MSS operator to use the spectrum.<sup>24</sup> However, none of these uses would serve the public interest and advance the Commission's strategic goals to the same extent

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<sup>21</sup> See Comments of CTIA; Comments of Cingular; Comments of API; Comments of Intel.

<sup>22</sup> See Comments of Society of Broadcast Engineers.

<sup>23</sup> See Comments of Sirius.

<sup>24</sup> See Comments of Inmarsat.



as redistributing the spectrum to TMI/TerreStar and ICO. None of these uses will provide sufficient spectrum to 2 GHz MSS for a ubiquitous and competitive mobile broadband service for all Americans; none will enhance homeland security to the same extent as 2 GHz MSS; and, since all of these proposals would result in delays due to auctions or processing rounds, none will put the spectrum to use as soon as redistribution to TMI/TerreStar and ICO, which have demonstrated their ability to move forward with their systems.

Moreover, none of the proposed alternative uses of the reclaimed 2 GHz spectrum will advance the Commission's goal of encouraging competition. In fact, it would have the contrary effect. The terrestrial carriers seek to deprive 2 GHz MSS of needed spectrum only to weaken potential competitors to existing wireless services. The minor benefit to consumers that could be achieved by allocating 2 GHz spectrum for additional channels of satellite radio (as suggested by Sirius) or for IP site-based delivery systems (as suggested by the American Petroleum Institute) would be insignificant compared to the provision of a robust and ubiquitous broadband service. In short, a strong 2 GHz MSS with sufficient spectrum is clearly the best choice for advancing the Commission's competitive goals.

If the Commission were to reallocate this spectrum for terrestrial use, significant regulatory decisions on eligibility, scope of an auction and operations would need to be made. Then an actual auction would need to be conducted. Likewise, the Commission has limited regulatory tools to efficiently assign this spectrum to another MSS licensee. It does not have authority to auction an MSS license, and the "comprehensive review" suggested by Inmarsat<sup>25</sup> would merely result in a protracted regulatory proceeding. Even if the Commission were able to conclude a proceeding to award new MSS licenses, it would still take 4-6 years to actually

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<sup>25</sup> See *id.* at 30-32.

construct, launch and operate any new MSS system and bring that system into service. In either case, the use of this public resource will be delayed. The assignment of this spectrum to the existing 2 GHz MSS licensees is the quickest and most efficient means to bring the benefits of this spectrum to the public.

### **III. CONCLUSION**

For the foregoing reasons, the Commission should help to ensure that its strategic goals are met and that there is a robust and competitive 2 GHz MSS to make mobile broadband services available to all Americans. SkyTerra therefore strongly supports the redistribution of the remaining one-third of 2 GHz MSS spectrum to the two licensees that have demonstrated the ability to move forward with their systems — TMI/TerreStar and ICO.

Respectfully submitted,

SKYTERRA COMMUNICATIONS, INC.

By: /s/ Robert A. Mazer  
Robert A. Mazer  
R. Edward Price  
Vinson & Elkins L.L.P.  
1455 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004-1008  
(202) 639-6500

Its Attorneys

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